

SUBMICRON CLOSED-FORM JOSEPHSON JUNCTIONS

ABSTRACT

A method for fabricating a closed-form Josephson junction includes etching the inner shape of the closed-form junction on the chip, depositing a negative photoresist
5 material over the etched chip, and flood exposing the backside of the chip with ultraviolet radiation. The photoresist is developed and then baked onto the chip. The baked photoresist serves as a mask for subsequent etching of the exterior of the closed-form Josephson junction. A shaped Josephson junction is fabricated with junction widths between about 0.1 μm and about 1 μm and an inner diameter ranging between about 1 μm
10 and about 1000 μm .